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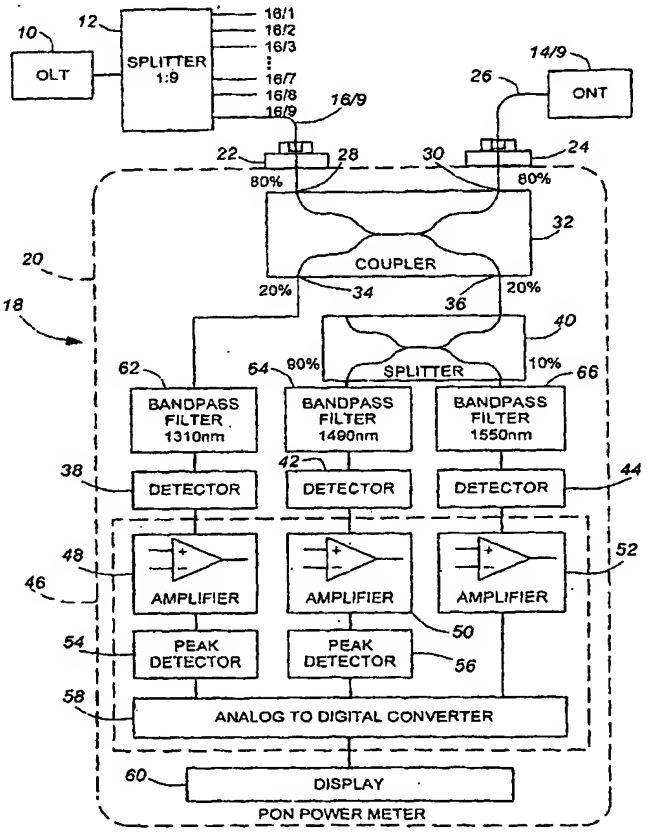
(54) Title: METHOD AND APPARATUS FOR TESTING OPTICAL NETWORKS



(57) Abstract: An instrument for measuring bidirectional optical signals propagating in an optical transmission path between elements one of which will not transmit if continuity of the transmission path is not maintained, for example a branch path between a central offices optical line terminal (OLT) and an end-user's optical network terminal (ONT), comprises first and second connector receptacles for connecting the instrument into the path, a 2 x 2 coupler (32) having first and second ports (28, 30) connected to the first and second connectors (22, 24), respectively, for completing the optical transmission path, a third port (36) for, outputting a portion of each optical signal received via the first port (28) and a fourth port (34) for outputting a portion of each optical signal received via the second port (30) Detectors (38, 42, 44) coupled to the third and fourth ports convert the optical signal portions into corresponding electrical signals, which are processed to provide the desired measurements. The measurement results may be displayed by a suitable display unit (60) Where the ÖLT transmits signals at two different wavelengths, the instrument may separate parts of the corresponding optical signal portion according to wavelength and process them separately.

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